Attorney Docket No. 44342.023000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: MURAI, Masatoshi

SERIAL NO.: 10/540,145 Art Unit: 1652

FILED: June 21, 2005 EXAMINER: CHOWDHURY, Iqbal Hossain

FOR: PROCESS FOR PRODUCING PNPASE

United States Patent and Trademark Office
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

In response to the USPTO Official Action mailed on May 17, 2006, applicants present the following remarks.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

The remarks begin on page 5 of this paper.

In the claims

1. (Previously Amended) A process for producing PNPase, comprising at least the following steps:

(A) constructing an expression vector comprising a prokaryote-derived PNPase gene integrated into a plasmid having a T7 promoter as an expression-regulating signal;

(B) transforming *Escherichia coli* or its analogous bacteria having a T7 RNA polymerase gene using the expression vector;

(C) allowing the resulting transformant to express the PNPase gene thereby accumulating PNPase in the bacteria; and

(D) recovering the bacteria having PNPase accumulated therein, and extracting and purifying the PNPase.

2. (Previously Amended) The process according to claim 1, wherein the steps (C) and (D) are the following steps (C') and (D') respectively:

(C') allowing the transformant to express the PNPase gene thereby accumulating PNPase in the bacteria, and further continuing to allow expression until the bacteria is disrupted to release the PNPase into a supernatant outside of the bacteria; and

(D') recovering and purifying the PNPase released in the supernatant.

3. (Previously Amended) The process according to claim 1, wherein the plasmid has a tag gene capable of adding a tag to the PNPase to be produced.

4. (Previously Presented) The process according to claim 3, wherein the tag gene is a His tag gene, T7 tag gene, S tag gene, Nus tag gene, GST tag gene, DsbA tag gene, DsbC tag gene, CBD_{cex} tag gene, CBD_{cenA} tag gene, CBD_{clos} tag gene, Trx tag gene, HSV tag gene, or 3×FLAG tag gene.

5. (Previously Amended) The process according to any one of claims 1 to 4, 11 or 12, wherein the prokaryote is *Escherichia coli*.

6. (Previously Presented) The process according to claim 5, wherein the *Escherichia coli* is *Escherichia coli* K12 or *Escherichia coli* O157.

7. (Previously Amended) The process according to claim 1, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

8. (Previously Cancelled)

9. (Previously Cancelled)

10. (Cancelled)

11. (Previously Presented) The process according to claim 2, wherein the plasmid has a tag gene capable of adding a tag to the PNPase to be produced.

12. (Previously Presented) The process according to claim 11, wherein the tag gene is a His tag gene, T7 tag gene, S tag gene, Nus tag gene, GST tag gene, DsbA tag gene, DsbC tag gene, CBD_{cex} tag gene, CBD_{cenA} tag gene, CBD_{clos} tag gene, Trx tag gene, HSV tag gene, or 3×FLAG tag gene.

13. (Previously Presented) The process according to claim 2, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

14. (Previously Presented) The process according to claim 3, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21

[DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

15. (Previously Presented) The process according to claim 4, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

16. (Previously Presented) The process according to claim 5, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

17. (Previously Presented) The process according to claim 6, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

18. (Previously Presented) The process according to claim 11, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

19. (Previously Presented) The process according to claim 12, wherein the *Escherichia coli* having a T7 RNA polymerase gene is *Escherichia coli* BL21 [DE3], *Escherichia coli* BL21 [DE3] pLysS, *Escherichia coli* BLR [DE3], *Escherichia coli* Rosetta [DE3], or *Escherichia coli* B834 [DE3].

Remarks

The undersigned thanks the Examiner for his courtesy during the telephone conference conducted on June 12, 2006. Pursuant to that telephone conference, it is agreed that the present application is a 371 of PCT/JP03/16653.

The Examiner has required an election under 35 U.S.C. §121 as follows:

I. Claims 1-7 and 11-19, drawn to a process for producing PNPase in an E.coli transforming with a PNPase gene derived from prokaryotic organism.

II. Claim 10 drawn to a process for producing polyinosinic acid and polycitidylic acid using PNPase.

Applicant respectfully traverses this requirement. In order to make this response responsive to the action, applicant elects Group I.

Reconsideration and withdrawal of this restriction requirement and an examination of all of the pending claims is requested. It is believed that all of the pending claims are in condition for allowance. Early and favorable action by the Examiner is earnestly solicited.

If the Examiner believes that issues may be resolved by telephone interview, the Examiner is respectfully urged to telephone the undersigned at (212) 801-2134. The undersigned may also be contacted by e-mail at diebnerg@gtlaw.com.

No fee is believed due for filing this Response. If any fees are due, however, please deduct them from our Account No. 50-1561.

Dated: June 13, 2006

By: Respectfully submitted,

Gerard F. Diebner
Registration No. 31,345
Customer Number: 32361
Greenberg Traurig, LLP
200 Park Avenue
New York, NY 10166